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# Optical identification of six hard X-ray sources from the INTEGRAL and SWIFT all-sky surveys

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## Abstract

We present results of optical identifications of six hard X-ray sources from the INTEGRAL and Swift all-sky surveys (IGR J03249+4041, SWIFT J1449. 5+8602, SWIFT J1542. 0-1410, IGR J17009+3559, IGR J18151-1052, IGR J18538-0102). Our optical observations were performed in 2009-2011 with the 6-m BTA telescope (Special Astrophysical Observatory, Nizhnii Arkhyz, Russia) and the 1. 5-m RTT-150 telescope (Turkish National Observatory, Antalya, Turkey). The optical spectra obtained for each of the program sources have allowed us to establish the nature of the objects and to measure their redshifts from the positions of emission and absorption lines. Five sources are shown to be extragalactic-four of them are identified with Seyfert 1 or 2 galaxies and the fifth source belongs to the class of X-ray-bright, optically normal galaxies (XBONGs). The sixth object (IGR J18151-1052) is located in our Galaxy and is an X-ray binary (XRB), a suspected cataclysmic variable. Apart from the optical spectra, we provide the X-ray spectra for five sources in the 0. 6-10 keV energy band obtained from XRT/Swift data. © 2012 Pleiades Publishing, Ltd.

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## Keywords

Active galactic nuclei, Optical observations, X-ray binaries, X-ray sources